

**REMARKS**

This Application has been carefully reviewed in light of the Office Action mailed May 22, 2003. Claims 1-34 are pending in the present application. The Examiner rejects Claims 1-3, 6-12, 15-21, 24-29, 31, and 33. The Examiner objects to Claims 4-5, 13-14, 22-23, 30, 32, and 34. For the reasons set forth below, Applicants respectfully disagree with these rejections and objections.

**Allowable Subject Matter**

Applicant notes with appreciation the Examiner's indication that Claims 4-5, 13-14, 22-23, 30, 32, and 34 would be allowable if rewritten in independent form to include all the limitations of the base claim and any intervening claims. However, these claims depend from independent Claims 1, 10, 19, 29, 32, and 33, respectively, which are allowable for the reasons discussed below, and are, therefore, allowable in their current form.

**Claim Objections**

The Examiner objects to Claims 4, 13, 22, 32, and 34 as having indefinite claim language for failing to define the term  $R^T$ . Applicant draws Examiner's attention to page 14, line 12 of the present application, which states that  $R^T$  is defined as the transpose of matrix  $R$ . Matrix transposition is well known to those skilled in the art. Therefore, Applicant respectfully requests that these objections be withdrawn.

**Rejections Under §101**

The Examiner rejects Claims 1-9 and 29-30 under 35 U.S.C. §101 stating that the claimed invention is directed to non-statutory subject matter, namely the manipulation of data. Applicant respectfully disagrees with this rejection.

The patent laws define patentable subject matter as "any new and useful process, machine, manufacture or composition of matter, or any new and useful improvement thereto." *See* 35 U.S.C. §101. When an abstract idea is reduced to a practical application, the abstract idea no longer stands alone if the practical application of the abstract idea produces a useful, concrete, and tangible result. This then satisfies the requirements of 35 U.S.C. §101. *See In re Alappat*, 33 F.3d 1526, 1544, 31 U.S.P.Q. 2d 1545, 1557 (Fed. Cir. 1994); see also *State Street*

*Bank & Trust Co. v. Signature Financial Group, Inc.*, 149 F.3d 1368, 1373, 47 U.S.P.Q. 2d 1596, 1601-02 (Fed. Cir. 1998). While an abstract idea by itself may not satisfy the requirements of 35 U.S.C. § 101, an abstract idea when practically applied to produce a useful, concrete, and tangible result satisfies 35 U.S.C. §101. *See AT&T Corp. v. Excel Comm. Inc.*, 172 F.3d 1352, 1357, 50 U.S.P.Q. 1447, 1452 (Fed. Cir. 1999) (stating that as technology progressed, the CCPA overturned some of the earlier limiting principles regarding 35 U.S.C. §101 and announced more expansive principles formulated with computer technology in mind); *see also In re Musgrave*, 431 F.2d 882, 167 U.S.P.Q. 280 (CCPA 1970) (cited by the Federal Circuit in *AT&T Corp.*, 172 F.3d at 1356). Thus, producing a useful, concrete, and tangible result is the key to patentability according to *State Street* and other applicable case law.

"Only when the claim is devoid of any limitation to a practical application in the technological arts should it be rejected under 35 U.S.C. §101." M.P.E.P. §2106. Indeed, a method or process remains statutory even if some or all of the steps therein can be performed in the human mind, with the aid of the human mind, or because it may be necessary for one performing the method or process to think. *See In re Musgrave*, 431 F.2d at 893, 167 U.S.P.Q. at 289. As stated by the Federal Circuit in *State Street* and as explicitly confirmed in the M.P.E.P., "[T]ransformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price, constitutes a practical application of a mathematical algorithm, formula, or calculation, because it produces 'a useful, concrete, and tangible result' -- a final share price momentarily fixed for recording and reporting purposes and even accepted and relied upon by regulatory authorities and in subsequent trades." *State Street*, 149 F.3d at 1373, 47 USPQ2d at 1601-02; M.P.E.P. §2106.

Applicants respectfully submit that Claims 1-9 and 29-30 produce a useful, concrete, and tangible result and are, therefore, directed to patentable subject matter. For example, Claims 1 and 29 recite "determining a variation for each child" in a multi-dimensional organization of data. Claim 1 also recites that new values are determined for each child by allocating the new values of the parents to the children based on the parent-child relationships, the current values of the children, and the variations of the children. Claim 29 recites similar, although not identical, limitations. Consequently, the present invention provides a technique for allocating data in which values for children are determined based on their parents' values. The

determination of the values of these children provides a useful, concrete, and tangible result. Therefore, Applicant respectfully requests that these rejections be withdrawn.

**Rejections Under §102**

The Examiner rejects Claims 29, 31, and 33 under 35 U.S.C. §102 as being anticipated by U.S. Patent 6,151,582 issued to Huang, et al. ("*Huang*").

*Huang* is directed toward a decision support system for managing an agile supply chain. (*Huang*, Abstract). The system allows a decision-maker in the supply chain to view the chain from their own perspective. (*Huang*, Col. 1; Lines 44-46). A structural data representation of the data in various data spaces is used to model the elements of the supply chain that are relatively static. (*Huang*, Col. 6; Lines 48-50). The decision support system database also contains process information for the dynamic elements of the supply chain. (*Huang*, Col. 8; Lines 38-43). The decision support system includes a server side that performs analytical processes on the data to determine requirements and make projections. (*Huang*, Col. 2; Lines 33-36). A client side presents the various available points of view of the supply chain to the user. (*Huang*, Col. 2; Lines 38-40).

Claim 29 of the present invention recites the following:

A method for allocating data in a hierarchical, multi-dimensional organization of data, comprising:

determining demand forecasts for one or more parents in the organization of data;

determining current demand values for one or more children in the organization of data, each child being hierarchically related to one or more of the parents;

determining the relationship between each parent and its children, the parents and children each representing a storage location within the organization of data that is uniquely identified by the positions of members in two or more dimensions of the organization of data;

determining a variation for each child, the variation calculated using statistical techniques based on the historical variation in the values of the child over a specified time period; and

determining a new demand value for each child by allocating the demand forecasts for the parents to the children based on the parent-child relationships, the current demand values of the children, and the variations of the children.

Claims 31 and 33 recite similar, although not identical, limitations.

Claim 29 recites "determining a new demand value for each child by allocating demand forecasts for the parents to the children based on the parent-child relationships, the current demand values of the children, and the variations of the children." Claims 31 and 33 recite similar, although not identical, claim limitations. The Examiner states that this limitation is disclosed in *Huang*. (Office Action mailed 5/22/03, citing *Huang*, Col. 21, Lines 45-60; Col. 26, Lines 25-35; Col. 40, Lines 25-50; and Col. 44, Table 9). *Huang* discloses Top-Down forecasts generated at the product level incorporating industry trend analysis for each product group (*Huang*, Col. 19; Lines 45-48 and Col. 21; Lines 45-60), a computation of various sales statistics for a chosen product line (*Huang*, Col. 26; Lines 25-35), an analysis of trends in quantity and percentage of each product family (*Huang*, Col. 40; Lines 25-50), and that demand volatility calculations are used to determine demand. (Col. 44, Table 9). However, *Huang* fails to disclose that a new demand value for each child is determined by allocating demand forecasts for the parents to the children *based on the parent-child relationships, the current demand values of the children, and the variations of the children*, as recited in Claims 29, 31, and 33.

For at least these reasons, Applicant believes that Claims 29, 31, and 33 are allowable over the cited reference. Therefore, Applicant respectfully requests reconsideration and allowance of Claims 29, 31, and 33, and all claims that depend from those claims.

### **Rejections Under §103**

The Examiner rejects Claims 1-28 under 35 U.S.C. §103(a) as being unpatentably over *Huang* in view of U.S. Patent 5,758,006 issued to Loble, et al. ("Loble"). For the reasons set forth below, Applicant respectfully disagrees with these rejections.

In order to establish a *prima facie* case of obviousness, three criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference, or the combination of references, must teach or suggest all of the claim limitations. *See* M.P.E.P. §2143. A *prima facie* case of obviousness cannot be maintained here

because neither *Huang* nor *Lobley*, whether considered alone or in combination, teach or suggest all of the elements of Claims 1-34

**Claims 1, 10, 19 and 28 are Allowable Over Huang In View of Lobley**

Claim 1 recites "determining a new value for each child by allocating the new values of the parents to the children based on the parent-child relationships, the current values of the children, and the variations of the children." Claims 10, 19, and 28 recite similar, although not identical, limitations. *Huang* fails to disclose determining a new value for each child by allocating the new values of the parents to the children *based on the parent-child relationships, the current values of the children, and the variations of the children*, as recited in Claim 1, and similarly, although not identically, in Claims 10, 19, and 28. Furthermore, *Lobley* is silent as to this limitation. Therefore, the combination of *Huang* and *Lobley* fails to teach all of the elements of Claims 1, 10, 19, and 28, and, therefore, a *prima facie* case of obviousness cannot be maintained.

For at least this reason, Applicant believes that Claims 1, 10, 19, and 28 are allowable over the cited references. Therefore, Applicant respectfully requests reconsideration and allowance of Claims 1, 10, 19, and 28, and all claims that depend from those claims.

**Claims 2-3, 6-9, 11-12, 15-18, 20-21, 24-27 are Allowable Over Huang In View of Lobley**

Claims 2-3 and 6-9 depend from Claim 1 and incorporate all of the limitations of Claim 1. Claims 11-12 and 15-18 depend from Claim 10 and incorporate all of the limitations of claim 10. Claims 20-21 and 24-27 depend from claim 19 and incorporate all of the limitations of Claim 19. As discussed above, *Huang* and *Lobley*, whether considered alone or in combination, fail to disclose the elements of Claims 1, 10, and 19 and are, therefore, allowable claims. Consequently, Claims 2-3, 6-9, 11-12, 15-18, 20-21, 24-27, which depend upon Claims 1, 10, and 19, are also allowable.

**CONCLUSION**

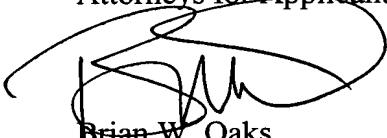
Applicant has made an earnest attempt to place this application in condition for allowance. For the foregoing reasons, and for other reasons clearly apparent, Applicant respectfully requests reconsideration and full allowance of all pending claims.

If the Examiner feels that a telephone conference would advance prosecution of this application in any manner, the Examiner is invited to contact Brian W. Oaks, Attorney for Applicant, at the Examiner's convenience at (214) 953-6986.

Although Applicant believes that no fees are due, the Commissioner is hereby authorized to charge any fees or credit any overpayment to Deposit Account No. 02-0384 of Baker Botts, L.L.P.

Respectfully submitted,

BAKER BOTT S, L.L.P.  
Attorneys for Applicant



Brian W. Oaks  
Reg. No. 44,981

Correspondence Address:  
2001 Ross Avenue, Suite 600  
Dallas, Texas 75201-2980  
(214) 953-6986

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